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EXAMINER
BAYARD, EMMANUEL

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS,
WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed
  after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any
  earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☒ Responsive to communication(s) filed on <u>21 February 2006</u>.
2a) ☐ This action is **FINAL**.   2b) ☒ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is
   closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) <u>1-33</u> is/are pending in the application.
   4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) <u>1-33</u> is/are rejected.
7) ☐ Claim(s) _____ is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) ☐ The specification is objected to by the Examiner.
10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
    a) ☐ All b) ☐ Some * c) ☐ None of:
    1. ☐ Certified copies of the priority documents have been received.
    2. ☐ Certified copies of the priority documents have been received in Application No. _____.
    3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage
       application from the International Bureau (PCT Rule 17.2(a)).
    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
   Paper No(s)/Mail Date _____.

4) ☐ Interview Summary (PTO-413)
   Paper No(s)/Mail Date. _____
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 101

Claims 1-12 and 29-33 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. Claims 1 and are rejected under 35 U.S.C. 101 as not falling within one of the four statutory categories of invention. Supreme Court precedent[1] and recent Federal Circuit decisions[2] indicate that a statutory "process" under 35 U.S.C. 101 must (1) be tied to another statutory category (such as a particular apparatus), or (2) transform underlying subject matter (such as an article or material) to a different state or thing. While the instant claim recites a series of steps or acts to be performed, the claim neither transforms underlying subject matter nor is positively tied to another statutory category that accomplishes the claimed method steps, and therefore does not qualify as a statutory process. For example the **video encoding** method including steps of combining is of sufficient breadth that it would be reasonably interpreted as a series of steps completely performed mentally, verbally or without a machine. **The Applicant has provided no explicit and deliberate definitions of "combining" to limit the steps to the electronic form of the" video," and the claim language itself is sufficiently broad to read about §101, mentally stepping through the §101 analysis, recalling *In re Bilski,* and telling the person who had the question his or her opinion.**

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[1] *Diamond v. Diehr*, 450 U.S. 175, 184 (1981); *Parker v. Flook*, 437 U.S. 584, 588 n.9 (1978); *Gottschalk v. Benson*, 409 U.S. 63, 70 (1972); *Cochrane v. Deener*, 94 U.S. 780, 787-88 (1876).
[2] *In re Bilski*, 88 USPQ2d 1385 (Fed. Cir. 2008).

Claims 2-12 and 30-32 are also rejected because they depend on a base rejected claim.

Claim Rejections - 35 USC § 101

Claim 33 is rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. Claim 33 recites <u>a digital data signal</u> which is a non-statutory.

Claim Rejections - 35 USC § 101

Claims 27-28 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. Machine language carrying media are well known to those of ordinary skill in the art. Thus, any such media of carrying program would be interpret for "carrying" as fairly conveying signals and other form of propagation media. Therefore this claim is rejected under 101 as failing to be limited to embodiments which fall within a statutory category.

Specification

1.   The specification is objected to as failing to provide proper antecedent basis for the claimed subject matter. See 37 CFR 1.75(d)(1) and MPEP § 608.01(o). Correction of the following is required: Applicant has failed to provide clear support or antecedent basis in the description for the terms "computer usable media" and "recording medium" as recited in claims 27 and 28, respectively..

Claim Rejections - 35 USC § 103

1.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set
> forth in section 102 of this title, if the differences between the subject matter sought to be patented and
> the prior art are such that the subject matter as a whole would have been obvious at the time the
> invention was made to a person having ordinary skill in the art to which said subject matter pertains.
> Patentability shall not be negatived by the manner in which the invention was made.

2.   Claims 1-32 are rejected under 35 U.S.C. 103(a) as being unpatentable over

Martemyanov U.S. Pub No 20050276323 A1 in view of Machida U.S. Pub No

20010055338.

As per claims 1, 13 and 29 Martemyanov teaches a method for video encoding a

block comprising: selecting (see fig.3 element 54) a first prediction of a current block

(see fig.3 element 50) with a second prediction of a current block (see fig.3 element 52)

and wherein the first prediction of the current block is intra prediction and the second

prediction of the current block is inter prediction.

However Martemyanov fails to teach combining a first prediction of a current

block with a second prediction of a current block.

Machida teaches teach combining a first prediction of a current block with a

second prediction of a current block (see fig.3 element 315 and paragraph [0049]).

It would have been obvious to one of ordinary skill in the art to implement the

teaching of Machida into Martemyanov as to calculated the average of the predicted

image A and B so that an error could be determined as taught by Machida (see

paragraph [0049]).

As per claim 2, Martemyanov and Machida in combination would teach wherein encoding the block includes combining the first prediction and the second prediction and a third prediction of the current block as to calculate the average of the predicted image A and B and C so that an error could be determined as taught by Machida (see paragraph [0049]).

As per claim 3, Martemyanov and Machida in combination would teach, wherein the current block is coded as a Direct mode block as to calculated the average of the predicted image A and B so that an error could be determined as taught by Machida (see paragraph [0049]).

As per claim 4, Martemyanov teach further comprising reducing the filter strength of a deblocking filter (see Martemyanov paragraph [0027] [0033]) adapted to •increase the correlation between pixels adjacent to the current block.

As per claim 5, Martemyanov and Machida in combination would teach wherein the second prediction is a null block 0 prediction as to calculated the average of the predicted image A and B so that an error could be determined as taught by Machida (see paragraph [0049]).

As per claim 6, Martemyanov and Machida in combination would teach wherein the first prediction and the second prediction are combined by averaging the first prediction and the second prediction as to calculated the average of the predicted image A and B so that an error could be determined as taught by Machida (see paragraph [0049]).

As per claims 7, 14, 24 and 32 Martemyanov and Machida in combination would teach, wherein the first prediction and the second prediction are combined by weighting (see Martemyanov paragraph [0279] [00332]) each of the first prediction and the second prediction as to calculated the average of the predicted image A and B so that an error could be determined as taught by Machida (see paragraph [0049]).

As per claim 8, Martemyanov teach wherein the current block is a 16 x 16 30 macroblock (see fig.2 element 42).

As per claim 9, Martemyanov and Machida in combination would teach , wherein the current block is a sub-macroblock as to calculated the average of the predicted image A and B so that an error could be determined as taught by Machida (see paragraph [0049]).

As per claim 10, Martemyanov and Machida in combination would teach wherein the current block is a 4 x 4sub- macroblock partition as to calculated the average of the predicted image A and B so that an error could be determined as taught by Machida (see paragraph [0049]).

As per claims 11, 19 and 26 Martemyanov teaches a method of video encoding for compressing and encoding frames of a two-dimensional image sequence for transmission (see figs.2-3 element 42) comprising: dividing a frame of the image sequence into blocks (see fif.3 elements 50, 52 and paragraph [0041]), selecting blocks and encoding the selected blocks (see fig.3 elements 54, 70 and paragraph [0044-0050]) in intra-inter encoding mode into a bitstream for transmission.

However Martemyanov fails to explicitly teach encoding the selected blocks in a bi-predictive hybrid intra-inter encoding mode into a bitstream for transmission.

Machida teaches encoding the selected blocks in a bi-predictive hybrid intra-inter encoding mode into a bitstream for transmission (fig.3 elements 304 and 307 and abstract and paragraph [0045] [0050-0052]).

It would have been obvious to one of ordinary skill in the art to implement the teaching of Machida into Martemyanov as to calculate an absolute differential sum of both predicted images A and B so that the coding means 307 could multiplex all these variable length codes and issue as a bit stream as taught by Machida (see paragraph [0052]).

As per claim 12, Martemyanov and Machida in combination would teach further comprising transmitting the bitstream containing the intra-inter encoded blocks as to calculate an absolute differential sum of both predicted images A and B so that the coding means 307 could multiplex all these variable length codes and issue as a bit stream as taught by Machida (see paragraph [0051-0052]).

As per claims 14-15, Martemyanov and Machida in combination would teach wherein the combining unit is adapted to average together the first intra prediction of the block and the first inter prediction of the block as to calculate an absolute differential sum of both predicted images A and B so that the coding means 307 could multiplex all these variable length codes and issue as a bit stream as taught by Machida (see paragraph [0051-0052]).

As per claim 16, Martemyanov and Machida in combination would teach wherein the hybrid intra-inter coded block is the average of the first intra prediction and the first inter prediction as to calculate an absolute differential sum of both predicted images A and B so that the coding means 307 could multiplex all these variable length codes and issue as a bit stream as taught by Machida (see paragraph [0051-0052]).

As per claim 17, Martemyanov and Machida in combination would teach, wherein the intra-frame prediction block is adapted to output a second intra prediction of the block; and the wherein the combining unit is further adapted to additively combine the first intra prediction and 5 the second intra prediction as to calculate an absolute differential sum of both predicted images A and B so that the coding means 307 could multiplex all these variable length codes and issue as a bit stream as taught by Machida (see paragraph [0051-0052]).

As per claim 18, Martemyanov and Machida in combination would teach, wherein the inter-frame prediction block is further adapted to output a Second inter prediction of the block; and wherein the combining unit is further adapted to combine the first inter prediction and the second inter prediction as to calculate an absolute differential sum of both predicted images A and B so that the coding means 307 could multiplex all these variable length codes and issue as a bit stream as taught by Machida (see paragraph [0051-0052]).

As per claim 20, Martemyanov and Machida in combination would teach, wherein the second prediction is an inter prediction of the current block as to calculate an absolute differential sum of both predicted images A and B so that the coding means

307 could multiplex all these variable length codes and issue as a bit stream as taught by Machida (see paragraph [0051-0052]).

As per claim 21, Martemyanov and Machida in combination would teach, wherein the second prediction is an intra prediction of the current block as to calculate an absolute differential sum of both predicted images A and B so that the coding means 307 could multiplex all these variable length codes and issue as a bit stream as taught by Machida (see paragraph [0051-0052]).

As per claim 22, Martemyanov and Machida in combination would teach wherein the encoder is further adapted 25 to select for coding the current block, between an intra encoding mode of the related art, an inter encoding mode of the related art, and a hybrid intra-inter encoding mode as to calculate an absolute differential sum of both predicted images A and B so that the coding means 307 could multiplex all these variable length codes and issue as a bit stream as taught by Machida (see paragraph [0051-0052]).

As per claim 23, Martemyanov and Machida in combination would teach wherein coding the current block in the hybrid intra-inter encoding mode outputs the average of the intra prediction of the 30 current block and an inter prediction of the current block as to calculate an absolute differential sum of both predicted images A and B so that the coding means 307 could multiplex all these variable length codes and issue as a bit stream as taught by Machida (see paragraph [0051-0052]).

As per claim 25, Martemyanov and Machida in combination would teach a mobile telephone comprising a video encoder as claimed in claim 13 as to decode and

code digital moving image so that effects of decoding errors would not propagate to frames and fields later in time as taught by Machida (see paragraph [0001]).

As per claim 27, Martemyanov teaches a computer-usable medium having a computer-readable program Code embodied therein for causing a computer system (see paragraph [0002]) to perform the method •of claim 1.

As per claim 28, Martemyanov teaches a recording medium that stores a program, readable by a computer (see paragraph [0002]), for causing a computer system to perform the method of claim• 1.

As per claim 30, Martemyanov and Machida in combination would teach wherein the step of combining is accomplished using a summing block as to calculate an absolute differential sum of both predicted images A and B so that the coding means 307 could multiplex all these variable length codes and issue as a bit stream as taught by Machida (see paragraph [0051-0052]).

As per claim 31, Martemyanov and Machida in combination would teach wherein the step of combining the two prediction types is accomplished by performing a simple average of the two prediction types as to calculate an absolute differential sum of both predicted images A and B so that the coding means 307 could multiplex all these variable length codes and issue as a bit stream as taught by Machida (see paragraph [0051-0052]).

Claim Rejections - 35 USC § 102

1.   The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2.   Claim 33 is rejected under 35 U.S.C. 102(b) as being anticipated by Machida

U.S. Pub No 20010055338.

3.   As per claim 33, Machida teaches a digital video data signal comprising

predictive data combined from both intra and inter predictive data (see fig.3 element 315

and paragraph [0049]).

Conclusion

4.   The prior art made of record and not relied upon is considered pertinent to

applicant's disclosure.

5.   Amara et al U.S. Pub No 20040095511 A1.

6.   Lainema et al U.S. Pub No 20010019634 A1.

7.   Ueda et al U.S. Pub No 20040022316.

        Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Emmanuel Bayard whose telephone number is 571 272

3016. The examiner can normally be reached on Monday-Friday (7:Am-4:30PM)

Alternate Friday off.

        If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Chieh Fan can be reached on 571 272 3042. The fax phone number for the

organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the

Patent Application Information Retrieval (PAIR) system. Status information for

published applications may be obtained from either Private PAIR or Public PAIR.

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you have questions on access to the Private PAIR system, contact the Electronic

Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a

USPTO Customer Service Representative or access to the automated information

system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

5/5/2010   Emmanuel Bayard
                                                            Primary Examiner
                                                            Art Unit 2611

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